

Video title: Microbiology Curriculum: Basic Culture Media and Isolation Techniques – 4 Quadrant Streak

Video Transcript:

The process of streaking a culture media plate to obtain isolated colonies from a specimen, or mixed culture, is an important skill in the microbiology laboratory.

For this procedure you will need the following materials and equipment.

Personal protective equipment;
1 to 10 microliter metal or sterile plastic loops;
an agar plate;
a sharps biohazard waste container;
an incinerator, if you are using a metal loop;
and a permanent marker to label the plate.

Use the marker to label the bottom of the agar plate to be streaked with the appropriate identifier, such as the culture number, isolate number, and date.

Note:

If you are using a metal loop, sterilize it in the incinerator for 5 to 10 seconds before streaking each quadrant.

Allow the loop to cool before touching the colony. You can make sure the loop is cool by touching an uninoculated area of the agar.

If you are using a plastic loop, get a new loop before streaking each quadrant and discard into a sharps biohazard container after streaking each quadrant.

Remove the lid of the agar plate containing the mixed culture.

Then use a sterile loop to pick the colony you wish to isolate.

It is important to not touch other areas of the plate to avoid contamination with the other colony types present.

Place the cover back on the plate and pick up the agar plate to be inoculated.

Place the initial inoculum in the first, or primary quadrant, by making a one-inch streak down, then streaking back and forth across this inoculation.

This will place a fair amount of organism in the first quadrant.

Flame the loop if it is metal or dispose of it properly if it is plastic.

Next, turn the plate a quarter turn.

With a sterile loop, streak the second quadrant by going through the edge of the primary quadrant approximately four times; continue streaking without going back into the primary quadrant again.

Turn the plate another quarter turn, repeating the process with a sterile loop, but only go into the second quadrant two or three times before completing the third quadrant streak.

Turn the plate another quarter turn and streak the fourth quadrant as you did the third but let the streaks get smaller and trail off.

Put the plate back into the lid and incubate it according to your laboratory's testing protocol.

After incubation, observe the plate for isolated colonies and proceed with the appropriate testing.